WHAT IS CLAIMED IS:

1. A method comprising the steps of:

generating a plurality of optical signals to which forward error correction is applied;

polarization scrambling each of said optical signals;

setting a scrambling frequency in said polarization scrambling step higher than a natural frequency in said forward error correction; and

wavelength division multiplexing said optical signals to obtain WDM signal light.

2. A method according to claim 1, wherein said natural frequency is the reciprocal of the period of block code lengths in said forward error correction.

3. A method according to claim 1, wherein the difference in said scrambling frequency between two optical signals having adjacent wavelengths of said plurality of optical signals is higher than said natural frequency.

4. A method according to claim 1, wherein said polarization scrambling step comprises the step of providing a phase modulator for phase modulating each optical signal.

5. A method according to claim 4, wherein:

said phase modulator has different modulation efficiencies to a first polarization plane and a second polarization plane orthogonal to said first polarization plane;

each optical signal is linearly polarized light having a polarization plane; and

said polarization scrambling step further comprises the step of 45° inclining said polarization plane of each optical signal with respect to said first and second polarization planes.

6. A method according to claim 1, wherein said polarization scrambling step comprises the steps of frequency modulating each optical signal and transmitting said frequency-modulated optical signal through a birefringent optical medium.

7. A method according to claim 6, wherein:

said frequency modulating step comprises the step of modulating a bias current for a laser diode for outputting each optical signal as linearly polarized light having a polarization plane;

said birefringent optical medium comprises a polarization maintaining fiber having a fast axis and a slow axis orthogonal to said fast axis; and

said polarization scrambling step further comprises

the step of 45° inclining said polarization plane of each optical signal with respect to said fast axis and said slow axis.

8. A method according to claim 1, further comprising the step of transmitting said WDM signal light by an optical fiber transmission line.

9. A method according to claim 8, further comprising the steps of:

separating said WDM signal light transmitted into a plurality of optical signals; and

decoding each of said optical signals obtained by said separating step, according to said forward error correction.

10. A device comprising:

a plurality of optical senders for generating a plurality of optical signals to which forward error correction is applied;

means for polarization scrambling each of said optical signals output from said optical senders; and

an optical multiplexer for wavelength division multiplexing said optical signals to obtain WDM signal light;

a scrambling frequency in said polarization scrambling means being set higher than a natural

frequency in said forward error correction.

11. A device according to claim 10, wherein said natural frequency is the reciprocal of the period of block code lengths in said forward error correction.

12. A device according to claim 10, wherein the difference in said scrambling frequency between two optical signals having adjacent wavelengths of said plurality of optical signals is higher than said natural frequency.

13. A device according to claim 10, wherein said polarization scrambling means comprises a phase modulator for phase modulating each optical signal.

14. A device according to claim 13, wherein:

said phase modulator has different modulation efficiencies to a first polarization plane and a second polarization plane orthogonal to said first polarization plane;

each optical signal is linearly polarized light having a polarization plane; and

said polarization plane of each optical signal is inclined 45° with respect to said first and second polarization planes.

15. A device according to claim 10, wherein said polarization scrambling means comprises means for

frequency modulating each optical signal and a birefringent optical medium for transmitting said frequency-modulated optical signal.

16. A device according to claim 15, wherein:

said frequency modulating means comprises means for modulating a bias current for a laser diode for outputting each optical signal as linearly polarized light having a polarization plane;

said birefringent optical medium comprises a polarization maintaining fiber having a fast axis and a slow axis orthogonal to said fast axis; and

said polarization plane of each optical signal is inclined 45° with respect to said fast axis and said slow axis.

17. A device according to claim 10, further comprising an optical fiber transmission line for transmitting said WDM signal light.

18. A device according to claim 17, further comprising:

an optical demultiplexer for separating said WDM signal light transmitted into a plurality of optical signals; and

means for decoding each of said optical signals output from said optical demultiplexer, according to said

forward error correction.

19. A method according to claim 1, wherein said scrambring frequencies of any pairs of wavelength channels with some channels interposed therein are the same, as long as there is an enough space between the wavelengths sufficient for suppressing nonlinear effects and crosstalks.

20. A device according to claim 10, wherein said scrambring frequencies of any pairs of wavelength channels with some channels interposed therein are the same, as long as there is an enough space between the wavelengths sufficient for suppressing nonlinear effects and crosstalks.